Lewis Mitchell

Curriculum Vitae

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Employment

2019– **Senior Lecturer in Applied Mathematics**, School of Mathematical Sciences, University of Adelaide.
2014–2018 **Lecturer in Applied Mathematics**, School of Mathematical Sciences, University of Adelaide.
2011–2014 **Ed Lorenz postdoctoral research fellow in the mathematics of climate**, Computational Story Lab, Vermont Complex Systems Center, University of Vermont, USA.

Education

2012 PhD in Applied Mathematics University of Sydney
2007 BMath (Adv) (Hons) / BSc (Phys) University of Wollongong

Honours and awards

2018 Australian Institute of Policy & Science Young Tall Poppy Science Award.
2018 ACEMS Outstanding Achievements Recognition Award.
2018 ACEMS Recognition for Outstanding Participation in Outreach Award.
2017 Faculty of ECMS Excellence in Teaching Award.
2010 TM Cherry Prize for best student talk, ANZIAM '10.
2007 University Medal, University of Wollongong.
2007 Austin Keane Memorial Prize for Best Performance in 400-level Mathematics subjects.
2006 S. A. Senior Prize for Best Performance in 300-level Mathematics Subjects.
2005 Applied Probability Trust Prize for Best Performance in 200-level Mathematics Subjects.

Grants

Since 2015 I have been awarded over $3 million in externally-funded research grants, $1.5 million as lead investigator.

2020–21	L Mitchell, F Neumann, M Nasim, D Weber, C Grimme, H Trautmann, D Assenmacher. "Detection and classification of malicious virtual grassroots influence campaigns in social media". *Universities Australia-DAAD (Germany) Australia-Germany Joint Research Cooperation Scheme.*	$24,000
2020	L Mitchell. "Cyber-social-security during COVID-19: The social media reaction to COVIDSafe". *Cyber Security CRC*.	$10,000
2019–2022	P Cassey, L Mitchell, R Brewer, J Facelli, P Caley. "Biosecurity surveillance of e-commerce and other online platforms for illegal trade in plants with potential for weed incursion and spread". *Centre for Invasive Species Solutions*.	$349,782
2019–2020	L Mitchell, D Stephens. "Modelling in the grey zone". *DST Group, University of Adelaide*.	$175,000
2018–2021	P Cassey, JV Ross, L Mitchell, J Austin, J Tyler, P Caley, D Ramsey, L Andrews, R Johnson. "Understanding and intervening in illegal trade in non-native species". *Centre for Invasive Species Solutions*.	$665,000
2015–2019	L Mitchell, J Tuke, NG Bean. "Predicting civil unrest and election outcomes using Bayesian network models". *Data to Decisions CRC*.	$661,261
2015–2019	L Mitchell, JV Ross, NG Bean. "Predicting common and novel disease outbreaks by assimilating open data into epidemiological models". *Data to Decisions CRC*.	$637,606

Invited talks

- Invited speaker, *Social media and COVID-19*, Macquarie University mathematics seminar, University of Queensland pandemic seminar, June 2020.
- Keynote speaker, *Characterising information and happiness in online social activity*, 15th Annual Workshop of the Australasian Language Technology Association (ALTA '17), Brisbane QLD, December 2017.

- Invited speaker, *Studying human dynamics via social media (and more)*, St. Mark's College, Adelaide SA, September 2016.
- Invited speaker, *Happiness and the shapes of stories*, South Australian statistical society, Adelaide SA, May 2016.
- Invited speaker, *Information flows and their role in social predictability*, IEEE workshop on complex systems, Perth WA, October 2015.
- Invited speaker, *Hedonometers, Lexicocalorimeters, and more*, University of South Australia mathematics colloquium, July 2015.
- Invited speaker, *Shadowing inflation in ensemble data assimilation*, Nansen environmental and remote sensing centre (NERSC), Bergen, Norway, June 2015.
- Invited speaker, *Happiness, Geography, the Weather and Twitter: Using Data Science as a Microscope for Human Dynamics*, Johnson State College Science Speaker Series, Johnson VT, September 2013.
- Invited speaker, *Improving climate models using non-global data assimilation and parameter estimation*, MAA MathFest, Hartford CT, August 2013.
- Invited speaker, *Big Happy: Revealing the character of cities through data*, TEDx conference, Burlington VT, October 2012. [youtube]

Teaching

- I teach primarily large service course in mathematics, with between 100-250 students. I won a **Faculty of ECMS Excellence in Teaching Award** for my lecturing in 2017.
- My student evaluations (SELTs) are consistently extremely high; I have been well **above the School, Faculty, and University averages for every question in every semester I have taught**.
- Program Coordinator, University of Adelaide online Master of Data Science (Applied).
- Course designer and instructor for two online MOOCs through the EdX platform: Computational Thinking and Big Data, and Big Data Analytics (launched 2017). As of April 2018, these courses have a combined enrolment of over 40,000 learners.

Course coordination

2019-20	Mathematical Foundations of Data Science	70 students
2019	Mathematics for Data Science I	185 students
2018-19	Applied Probability III	35 students
2016-17	Numerical Methods II	220-250 students
2015-17	Differential Equations II	120-150 students
2012-14	Calculus I (Uni. Vermont)	30 students

Lecturing

2015	Numerical Methods II	240 students
2014	Mathematics IA	400 students

Supervision

Research staff

1. Dr Oliver Stringham, Postdoctoral research fellow on CISS project *Understanding and intervening in illegal trade in non-native species*, 2018–.
2. Dr Mehwish Nasim, Postdoctoral research fellow on D2D CRC project *Predicting civil unrest and election outcomes using Bayesian network models*, 2017-19. Now data scientist at Data61.
3. Dr Robert Cope, Postdoctoral research fellow on D2D CRC project *Predicting common and novel disease outbreaks by assimilating open data into epidemiological models*, 2016-19.
4. Ms Saranzaya (Saka) Magsarjav, Research assistant on D2D CRC/DST Group projects, 2019.
5. Mr Andrew Nguyen, Research engineer on D2D CRC project *Predicting civil unrest and election outcomes using Bayesian network models*, 2017-19.
6. Dr Ahmad Hossny, Postdoctoral research fellow on D2D CRC project *Predicting civil unrest and election outcomes using Bayesian network models*, 2015-17. Now senior data scientist with Algorythma.

PhD

1. Mr Curtis Murray, *Understanding patient experiences in healthcare through natural language processing*, 2020—
2. Mr Adam Toomes (School of Biological Sciences, Faculty of Science), *Analysing Dynamics of the Illegal Wildlife Trade in Australia*, 2018—

3. Mr Dennis Liu, *Early Warning Signals: The Interaction of Social Media With Vaccination and Disease Outbreak*, D2D CRC National Security Big Data top-up scholarship ($30,000 p/a), 2017—
4. Ms Caitlin Gray, *Modelling Information Cascades: Creating Predictive Models on Temporal Networks*, D2D CRC National Security Big Data top-up scholarship ($30,000 p/a), 2017—
5. Mr Max Glonek, *A Census of Social Medial Users: Statistical Techniques for Quantifying and Correcting Biases in Big Open Data Sources*, 2016—
6. Dr Peter Mathews, *Trend Detection from Social Media Using Probabilistic Graphical Models*, 2016-18. Now senior data scientist at Salesforce.

MPhil

1. Mr Scott Carnie-Bronca, *Mathematics for last-mile transportation*, 2020—
2. Mr Joshua Price, *Optimising battery replacement in a fleet of scooters*, 2020—
3. Mr Benjamin Nagy (School of Classics, Faculty of Arts), *Carmen et Standard Error: Computational Methods for Stylistics in Latin Poetry*, 2019—
4. Ms Rose Crocker, *Using Data Assimilation and Lagrangian Coherent Structure Techniques to Improve Error Quantification in Geophysical and Climate Models*, 2019—
5. Mr Tobin South, *Information Propagation and Community Structure in Social Networks*, 2019—
6. Ms Ashley Dennis-Henderson, *Analysis of World War I Diaries Using Natural Language Processing*, 2018—
7. Mr Anton Andreacchio, *Applications of Complex Network Analysis for Strategic Decision Making in Australian Rules Football*, 2018—
8. Ms Jessica Penfold, *Exploring the Link Between Weather Factors and Influenza Dynamics*, 2017-18. Now full-time at DST Group.
9. Ms Michelle Edwards, *Temporal Analysis of Social Networks in Television Series*, 2017—2019. Now full-time at Australian Bureau of Statistics.
10. Ms Vanessa Glenny, *A methodology for predictive topic modelling*, 2016-18. Now full-time with Australian Department of Defence.

Honours

1. Mr Luke Pickering, *Novel clustering approaches for popular movies*, Hons I, 2017-19. Now data scientist with Sweat.
2. Ms Saranzaya (Saka) Magsarjav, *Analysis of signed networks in movies*, Hons I, 2018.
3. Mr Declan Jamieson, *Social network analysis of sports supporters: A case study of #BB07*, Hons II, 2018.
4. Ms Caitlin Gray, *Information cascades on random networks*, Hons I, 2016. Continued to PhD with me.
5. Ms Yiwen (Wendy) Li, *Prediction of civil unrest events using Poisson and Hawkes models*, Hons II, 2016. Now data scientist at UoA Waite campus.

Summer research scholarships

2018/19	Isabelle Greco
	John Davey (AMSI vacation scholar)
	Ryan Wood
	Tobin South
2017/18	Tobin South (AMSI vacation scholar, best AMSIConnect presentation award)
	Saka Magsarjav
	Joshua Dent
2016/17	Jessica Penfold (AMSI vacation scholar)
	Rose Crocker
	Michael Ucci
	Tobin South
2015/16	Michelle Edwards
	Amelia Briggs
	James Walker

Professional service & outreach

- Research and design for The Hedonometer and Connect For exhibits, HEDONISM exhibition, Museum of Discovery (MOD), Adelaide, May-Nov 2019.
- CHOOSEMATHS female high school student mentor, Australian Mathematical Sciences Institute (AMSI), 2017-19.
- Outreach committee, School of Mathematical Sciences, University of Adelaide, 2017-19.
- SACE board exam setting committee, 2017-18.

- School colloquium organiser, School of Mathematical Sciences, University of Adelaide, 2016.
- University of Adelaide Open Day volunteer, 2015-17 (organiser in 2017). Volunteer presenter for *aMATHing Day*, *Ingenuity*, *MathsCraft* events, 2015-17. Designed outreach activity "How to be a data scientist: Shapes of movies through math" used in *Young Women in Technology* workshops 2015-16.
- Regular media interviews and comment for radio, news articles, podcasts (see *Selected media coverage* below), and write articles for blogs and online outlets such as The Conversation (see *Popular articles*), one of which was **published in The Conversation's book of the top 50 articles of 2017**.
- MPhil thesis examiner, 2017.
- Invited reviewer for *Nature Communications*, *PLoS ONE*, *SIAM Journal on Applied Dynamical Systems*, *Journal of Complex Networks*, *Journal of the Atmospheric Sciences*, *Monthly Weather Review*, *Chaos*, *Psychological Reports*, *Nonprofit and Voluntary Sector Quarterly*, *International Journal of Geographical Information Science*, *Social Science and Medicine*, *BioMed Research International*, *Online Social Networks and Media*.

Workshops and sessions organised

- Organising and presentation selection committee member, *The 4th annual Australian Social Network Analysis Conference* (ASNAC 2019). Adelaide, South Australia, November 27-28 2019.
- *Predictability in Earth system processes*. IMA hot topics workshop, Minneapolis MN, November 18-21 2013.
- *Data assimilation and dynamical processes: Ocean, atmosphere and climate*. SIAM conference on mathematical and computational issues in the geosciences, Padova, Italy, April 2013.
- *Computational social science: An exploration of human dynamics*. SIAM conference on dynamical systems, Snowbird UT, May 2013.
- *Challenges in data assimilation and the mathematics of planet Earth and its climate*. Joint Mathematics Meetings 2013, San Diego CA, January 2013.
- *Data assimilation in large-scale weather and climate models*. SIAM conference on uncertainty quantification, Raleigh NC, April 2012.

Publications

Book chapters

1. Mitchell, L (2017b). "How the internet knows if you're happy or sad". In: *The Conversation Yearbook 2017: 50 standout articles from Australia's top thinkers*. Melbourne: Melbourne University Press.

Refereed research papers

1. Gray, C, L Mitchell, and M Roughan (2020). Bayesian inference of network structure from information cascades. *IEEE Transactions on Signal and Information Processing over Networks* **6**, 371–381.
2. Pond, T, S Magsarjav, T South, L Mitchell, and JP Bagrow (2020). Complex contagion features without social reinforcement in a model of social information flow. *Entropy* **22**(3), 265.
3. Roughan, M, L Mitchell, and T South (2020). How the Avengers assemble: Ecological modelling of effective cast sizes for movies. *Plos one* **15**(2), e0223833.
4. Tuke, J, A Nguyen, M Nasim, D Mellor, A Wickramasinghe, N Bean, and L Mitchell (2020). Pachinko Prediction: A Bayesian method for event prediction from social media data. *Information Processing & Management* **57**(2), 102147. arXiv: 1809.08427.
5. Bagrow, JP, X Liu, and L Mitchell (2019). Information flow reveals prediction limits in online social activity. *Nature Human Behaviour* **3**(2), 122–128. arXiv: 1708.04575.
6. Dharmaprani, D, M Schopp, P Kuklik, D Chapman, A Lahiri, L Dykes, F Xiong, M Aguilar, B Strauss, L Mitchell, et al. (2019). Renewal theory provides a universal quantitative framework to characterise the continuous regeneration of rotational events in cardiac fibrillation. *Circulation: Arrhythmia and Electrophysiology* **12** (12), e007569.
7. Glonek, M, J Tuke, L Mitchell, and N Bean (2019). Semi-supervised graph labelling reveals increasing partisanship in the United States Congress. arXiv: 1904.01153.
8. Gray, C, L Mitchell, and M Roughan (2019). Generating Connected Random Graphs. *Journal of Complex Networks*, cnz011. arXiv: 1806.11276.
9. Bagrow, JP and L Mitchell (2018). The quoter model: A paradigmatic model of the social flow of written information. *Chaos* **28**, 075304. arXiv: 1711.00326.
10. Bellsky, T and L Mitchell (2018). A shadowing-based inflation scheme for ensemble data assimilation. *Physica D* **380-1**, 1–7. arXiv: 1805.07011.
11. Cope, RC, JV Ross, M Chilver, NP Stocks, and L Mitchell (2018). Characterising seasonal influenza epidemiology using primary care surveillance data. *PLoS computational biology* **14**(8), e1006377.

12. Hossny, AH, T Moschuo, G Osborne, L Mitchell, and N Lothian (2018). Enhancing keyword correlation for event detection in social networks using SVD and k-means: Twitter case study. *Social Network Analysis and Mining* **8**(1), 49.
13. Tiggemann, M, O Churches, L Mitchell, and Z Brown (2018). Tweeting weight loss: A comparison of #thinspiration and #fitspiration communities on Twitter. *Body Image* **25**, 133–138.
14. Venohr, M, SD Langhans, O Peters, F Hölker, R Arlinghaus, L Mitchell, and C Wolter (2018). The underestimated dynamics and impacts of water-based recreational activities on freshwater ecosystems. *Environmental reviews* **26** (2), 199–213.
15. Alajajian, SE, JR Williams, AJ Reagan, SC Alajajian, MR Frank, L Mitchell, J Lahne, CM Danforth, and PS Dodds (2017). The lexicocalorimeter: Gauging public health through caloric input and output on social media. *PLoS ONE* **12**(2), e0168893.
16. Dodds, PS, DR Dewhurst, FF Hazlehurst, CM Van Oort, L Mitchell, AJ Reagan, JR Williams, and CM Danforth (2017). Simon's fundamental rich-get-richer model entails a dominant first-mover advantage. *Physical Review E* **95**(5), 052301.
17. Dodds, P, L Mitchell, A Reagan, and C Danforth (2016). Tracking climate change through the spatiotemporal dynamics of the Teletherms, the statistically hottest and coldest days of the year. *PLoS ONE* **11**(5), e0154184.
18. Kiley, DP, AJ Reagan, L Mitchell, CM Danforth, and PS Dodds (2016). Game story space of professional sports: Australian rules football. *Physical Review E* **93**(5), 052314.
19. Mitchell, L and JV Ross (2016). A data-driven model for influenza transmission incorporating media effects. *Royal Society Open Science* **3**, 160481.
20. Reagan, AJ, L Mitchell, D Kiley, CM Danforth, and PS Dodds (2016). The emotional arcs of stories are dominated by six basic shapes. *EPJ Data Science* **5**(1), 31.
21. Cody, EM, AJ Reagan, L Mitchell, PS Dodds, and CM Danforth (2015). Climate change Sentiment on Twitter: An unsolicited public opinion poll. *PLoS ONE* **10**(8), e0136092.
22. Dodds, PS, EM Clark, S Desu, MR Frank, AJ Reagan, JR Williams, L Mitchell, KD Harris, IM Kloumann, JP Bagrow, K Megerdoomian, MT Mcmahon, BF Tivnan, and CM Danforth (2015). Common mistakes in measuring frequency-dependent word characteristics. *Proceedings of the National Academy of Sciences of the United States of America* **112**(23), E2984–E2985.
23. Dodds, PS, EM Clark, S Desu, MR Frank, AJ Reagan, JR Williams, L Mitchell, KD Harris, IM Kloumann, JP Bagrow, K Megerdoomian, MT McMahon, BF Tivnan, and CM Danforth (2015). Human language reveals a universal positivity bias. *Proceedings of the National Academy of Sciences* **112**(8), 2389–2394.
24. Mitchell, L and A Carrassi (2015). Accounting for model error due to unresolved scales within ensemble Kalman filtering. *Quarterly Journal of the Royal Meteorological Society* **141**(689), 1417–1428. arXiv: 1409.0589.
25. Bellsky, T, J Berwald, and L Mitchell (2014). Nonglobal parameter estimation using local ensemble Kalman filtering. *Monthly Weather Review* **142**(6), 2150–2164.
26. Frank, MR, L Mitchell, PS Dodds, and CM Danforth (2014). Standing swells surveyed showing surprisingly stable solutions for the Lorenz '96 model. *International Journal of Bifurcation and Chaos* **24**(10), 1430027.
27. Frank, MR, L Mitchell, PS Dodds, and CM Danforth (2013). Happiness and the patterns of life: A study of geolocated tweets. *Scientific Reports* **3**, 1–9.
28. Mitchell, L, MR Frank, KD Harris, PS Dodds, and CM Danforth (2013). The geography of happiness: Connecting Twitter sentiment and expression, demographics, and objective characteristics of place. *PLoS ONE* **8**(5), e64417.
29. Mitchell, L and GA Gottwald (2012a). Controlling model error of underdamped forecast models in sparse observational networks using a variance-limiting Kalman filter. *Quarterly Journal of the Royal Meteorological Society* **139**(670), 212–225.
30. Mitchell, L and GA Gottwald (2012b). Data assimilation in slow-fast systems using homogenized climate models. *Journal of the Atmospheric Sciences* **69**(4), 1359–1377.
31. Mitchell, L and GA Gottwald (2012c). On finite-size Lyapunov exponents in multiscale systems. *Chaos* **22**(023115).
32. Gottwald, GA, L Mitchell, and S Reich (2011). Controlling overestimation of error covariance in ensemble Kalman filters with sparse observations: A variance-limiting Kalman filter. *Monthly Weather Review* **139**(8), 2650–2667.
33. Zhu, S-P and L Mitchell (2011). Combined diffraction and radiation of ocean waves around an OWC device. *Journal of Applied Mathematics and Computing* **36**(1-2), 401–416.
34. Zhu, S-P and L Mitchell (2009). Diffraction of ocean waves around a hollow cylindrical shell structure. *Wave Motion* **46**(1), 78–88.

Papers in refereed conference proceedings

1. Weber, D, M Nasim, L Falzon, and L Mitchell (2020). #ArsonEmergency and Australia's "Black Summer": Polarisation and misinformation on social media. In: *Proceedings of the 2nd Multidisciplinary International Symposium on Disinformation in Open Online Media (MISDOOM '20)*. arXiv: 2004.00742.
2. Glenny, V, J Tuke, N Bean, and L Mitchell (2019). A framework for streamlined statistical prediction using topic models. In: *Proceedings of the 2019 Joint SIGHUM Workshop on Computational Linguistics for Cultural Heritage, Social Sciences, Humanities and Literature (LaTeCH-CLfL '19)*. arXiv: 1904.06941.
3. Hossny, AH and L Mitchell (2019). Event detection in Twitter: A keyword volume approach. In: *The 2nd International Workshop on Social Computing (IWSC '18)*. arXiv: 1901.00570.
4. Nguyen, A, T South, N Bean, J Tuke, and L Mitchell (2019). Podlab at SemEval-2019 Task 3: The Importance of Being Shallow. In: *Proceedings of the 13th International Workshop on Semantic Evaluation*, pp.292–296.
5. Glonek, M, J Tuke, L Mitchell, and N Bean (2018). GLaSS: Semi-supervised Graph Labelling with Markov Random Walks to Absorption. In: *Complex Networks and Their Applications*. Ed. by LM Aiello, C Cherifi, H Cherifi, R Lambiotte, P Lió, and LM Rocha. Vol. 7. Cambridge: Springer International Publishing, pp.304–315.
6. Gray, C, L Mitchell, and M Roughan (2018). Super-blockers and the effect of network structure on information cascades. In: *Proceedings of the 26th International Conference on the World Wide Web (WWW '18) Companion*, pp.1435–1441. arXiv: 1802.05039.
7. Mathews, P, C Gray, L Mitchell, GT Nguyen, and NG Bean (2018). SMERC: Social media event response clustering using textual and temporal information. In: *Proceedings of the 2018 International Workshop on Big Social Media Data Management and Analysis (BSMDMA2018)*.
8. Mitchell, L, J Dent, and JV Ross (2018). Mo' characters mo' problems: Online social media platform constraints and modes of communication. In: *The 19th annual conference of the Association of Internet Researches (AOIR '18)*. Montreal.
9. Nasim, M, A Nguyen, N Lothian, R Cope, and L Mitchell (2018). Real-time detection of content polluters in partially observable Twitter networks. In: *Proceedings of the 26th International Conference on the World Wide Web (WWW '18) Companion*, pp.1331–1339. arXiv: 1804.01235.
10. Bagrow, JP, CM Danforth, and L Mitchell (2017). Which friends are more popular than you? Contact strength and the friendship paradox in social networks. In: *The 2017 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM '17)*. Sydney, pp.103–108. arXiv: 1703.06361.
11. Mathews, P, L Mitchell, G Nguyen, and N Bean (2017). The nature and origin of heavy tails in retweet activity. In: *The 26th International Conference on World Wide Web Companion*, pp.1493–1498. arXiv: 1703.05545.
12. Mitchell, L and S-P Zhu (2008). Linear Diffraction and Radiation of Surface Waves by a Hollow Suspended Cylindrical Shell. In: *Proceedings of the ASME 27th International Conference on Offshore Mechanics and Arctic Engineering (OMAE '08)*, pp.579–585.

Working papers under revision or review

1. Murray, C, L Mitchell, J Tuke, and M Mackay (2020). Symptom extraction from the narratives of personal experiences with COVID-19 on Reddit. arXiv: 2005.10454.
2. Edwards, M, L Mitchell, J Tuke, and M Roughan (2018). The one comparing narrative social network extraction techniques. arXiv: 1811.01467.
3. Frank, MR, JR Williams, L Mitchell, JP Bagrow, PS Dodds, and CM Danforth (2015). Constructing a taxonomy of fine-grained human movement and activity motifs through social media. arXiv: 1410.1393.
4. Bagrow, JP, S Desu, MR Frank, N Manukyan, L Mitchell, A Reagan, EE Bloedorn, LB Booker, LK Branting, MJ Smith, BF Tivnan, CM Danforth, PS Dodds, and JC Bongard (2013). Shadow networks: Discovering hidden nodes with models of information flow. arXiv: 1312.6122.

Popular articles

1. Black, A, D Liu, and L Mitchell (2020). How to flatten the curve of coronavirus, a mathematician explains. In: *The Conversation (130K reads)*. https://theconversation.com/how-to-flatten-the-curve-of-coronavirus-a-mathematician-explains-133514.
2. Dennis, S, A Perfors, D Little, J White, L Mitchell, N Geard, P Garrett, and S Lewandowsky (2020). 70% of people surveyed said they download a coronavirus app. Only 44% did. Why the gap? In: *The Conversation*. https://theconversation.com/70-of-people-surveyed-said-theyd-download-a-coronavirus-app-only-44-did-why-the-gap-138427.

3. Mitchell, L and JV Ross (2019). A Hippocratic Oath for data science? We'll settle for a little more data literacy. In: *The Conversation (16K reads)*. https://theconversation.com/a-hippocratic-oath-for-data-science-well-settle-for-a-little-more-data-literacy-122200.
4. Mitchell, L (2017a). Explainer: how the internet knows if you're happy or sad. In: *The Conversation (25K reads, selected for* The Conversation Yearbook 2017: 50 standout articles from Australia's top thinkers*)*. https://theconversation.com/explainer-how-the-internet-knows-if-youre-happy-or-sad-77401.
5. McVernon, J, JV Ross, K Glass, L Mitchell, N Geard, and R Moss (2016). Computing helps the study of infections on a global and local scale. In: *The Conversation*. https://theconversation.com/computing-helps-the-study-of-infections-on-a-global-and-local-scale-58152.
6. Mitchell, L (2016). How Twitter gives scientists a window into human happiness and health. In: *The Conversation*. https://theconversation.com/how-twitter-gives-scientists-a-window-into-human-happiness-and-health-62255.

Selected media coverage

- Your online friends' data reveals a lot about you, and it's 95% accurate, study finds. The Adelaide Advertiser, January 22, 2019.
- The case of the fear chase: Lewis Mitchell (podcast episode). School of Batman podcast, May 1, 2018.
- How social media companies are figuring out how you feel (live interview). ABC Radio, RN Drive, May 24, 2017.
- Story arcs in fiction according to artificial intelligence (live interview). ABC Radio, Books and Arts program, May 22, 2017.
- Great Literature Is Surprisingly Arithmetic. Scientific American, February 2017.
- Data Mining Reveals the Six Basic Emotional Arcs of Storytelling. MIT Technology Review, July 6, 2016.
- Twitter can tell which states love jogging and which are eating hot dogs. Washington Post, July 29, 2015.
- Does langauge work to make the world a happier place? Cosmos Magazine, February 16, 2015.
- Language proves we're all optimists at heart. ABC News in Science, February 10, 2015.
- The Happiest States In America In One Map (INFOGRAPHIC). Huffington Post, August 2, 2013.
- Where are the happiest tweeters? (live video interview). Wall Street Journal, May 2013.
- Twitter study: Happiness rises the further you travel. BBC Future, April 11, 2013.
- New Study Uses Tweets To Rank America's Happiest Cities, States. Time Magazine Online, February 25, 2013.
- The geography of happiness according to 10 million tweets. The Atlantic, February 19, 2013.